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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/613,371 | 07/03/2003 | Kazunari Motohashi | 075834.00409 | 4837 |

33448 7590 05/26/2006

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| EXAMINER |
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BERNATZ, KEVIN M

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| ART UNIT | PAPER NUMBER |
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1773

DATE MAILED: 05/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/613,371

Applicant(s)

MOTOHASHI, KAZUNARI

Examiner

Kevin M. Bernatz

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☒ Claim(s) 2 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Response to Amendment

1. Addition of new claims 2 and 3, filed on March 20, 2006, has been entered in the above-identified application.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Objections

3. Claim 2 is objected to because of the following informalities: "wherein he density" should be "wherein the density". Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 2 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the underlying layer comprising filler with the claimed average particle diameter, does not reasonably provide enablement for "binder residents and having" the claimed particle diameter. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

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The Examiner notes that there appears to be a typographical/translation error in this claim and suggests rewording the claim language as follows: "an underlying layer comprised of binder and filler having an average particle diameter of 5 to 30 nm, ...". For the purposes of evaluating the prior art, the Examiner has interpreted the claim as noted above (i.e. that it is the filler that is required to have the claimed average particle diameter limitation).

Claim Rejections - 35 USC § 102

6. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Ishida et al. (U.S. Patent No. 5,554,440) for the reasons of record as set forth in Paragraph 3 of the Office Action mailed on September 20, 2005.

Regarding claim 3, the Examiner notes that Ishida et al. clearly disclose embodiments wherein the magnetic layer has a thickness of less than 50 nm (*Figure 9*).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida et al. as applied above.

Ishida et al. is relied upon as described above.

While the Examiner maintains that Ishida et al. discloses the claimed limitations with sufficient specificity to anticipate the claimed subject matter, the Examiner acknowledges that Ishida et al. disclose that “the thickness of the Co-O magnetic layer is preferably from 50 nm to 150 nm in view of the recording/reproducing characteristics of the magnetic tape” (*col. 14, lines 57 – 60*).

However, Ishida et al. teach that the thickness of the magnetic layer can be varied to effect the coercivity, squareness ratio (*Figure 9*), over-writing and signal to noise (*Figure 21 and col. 14, lines 28 – 41*). Therefore, the Examiner deems that it would have been obvious to one having ordinary skill in the art to determine a thickness value of the magnetic layer meeting applicants’ claimed thickness range by optimizing the results effective variable through routine experimentation. *In re Boesch*, 205 USPQ 215 (CCPA 1980); *In re Geisler*, 116 F. 3d 1465, 43 USPQ2d 1362, 1365 (Fed. Cir. 1997); *In re Aller*, 220 F.2d, 454, 456, 105 USPQ 233, 235 (CCPA 1955).

9. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida et al. as applied above in Paragraph 6, and further in view of Tsunekawa et al. (U.S. Patent No. 7,026,064 B1).

Ishida et al. is relied upon as described above.

Ishida et al. fail to disclose an underlying layer meeting applicants’ claimed limitations.

However, Tsunekawa et al. teach an underlying layer (*col. 9, lines 4 – 25*) comprised of a binder and filler having an average particle diameter meeting applicants’

claimed limitations (*col. 8, lines 25 – 56*) and the density of surface projections is in a range of from $50 \times 10^4/\text{mm}^2$ to $3000 \times 10^4/\text{mm}^2$ (*col. 7, lines 3 – 21*), wherein film is taught to result in a magnetic recording medium possessing improved wear-resistance and running characteristics (*col. 3, lines 1 – 7*).

It would therefore have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the device of Ishida et al. to utilize an underlying layer meeting applicants' claimed limitations as taught by Tsunekawa et al. in order to result in a magnetic recording medium possessing improved wear-resistance and running characteristics.

Response to Arguments

10. The rejection of claims 1 - 3 under 35 U.S.C § 102(b) and/or 103(a) – Ishida et al., alone or in view of Tsunekawa et al.

Applicant(s) arguments have been considered but are moot in view of the new ground(s) of rejection. In so far as they apply to the present rejection of record, applicant(s) argue the preferred range of Ishida et al. for their magnetic layer (i.e. 50 to 150 nm) results in a patentable distinction between the present invention which claims a magnetic layer thickness of 50 nm or less, or "less than the 50 nm" (claim 3). The Examiner respectfully disagrees.

First, the Examiner reminds applicants that a single point of overlap is a *prima facie* case of anticipation, so the overlap at the data point "50 nm" is sufficient to anticipate the claimed invention of claim 1. Second, applicant(s) are reminded that the

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rejection is based on the entire reference(s) and not just a piece meal analysis of the cited reference(s). In the instant case, while 50 – 150 nm may be the preferred range for Ishida et al., Ishida et al. provides clear data in many different properties for magnetic layer thickness values below 50 nm. Notwithstanding the fact that 49.9999 nm would read on the claimed limitation of “less than the 50 nm”, the Examiner notes that there is sufficient guidance in Ishida et al. to properly demonstrate that the magnetic layer thickness is a known cause effective variable. It is well established that it is within the knowledge of one of ordinary skill in the art to optimize a *known* cause effective variable. As such, the Examiner deems that there is sufficient guidance and specificity in the teachings of the prior art to either anticipate, or at the very least, render the claimed invention an obvious variant.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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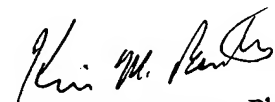
extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M Bernatz whose telephone number is (571) 272-1505. The examiner can normally be reached on M-F, 9:00 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KMB
May 23, 2006


Kevin M. Bernatz, PhD
Primary Examiner